2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS 2021)

Coimbatore, India
25 – 27 March 2021

Pages 1-585

IEEE Catalog Number: CFP21OAB-POD
ISBN: 978-1-7281-9538-4

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP21OAB-POD
ISBN (Print-On-Demand): 978-1-7281-9538-4
ISBN (Online): 978-1-7281-9537-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

International Conference on Artificial Intelligence and Smart Systems (ICAIS-2021)

Table of Contents

S. No	Paper Title/ Author Name	Page. No
1	Application of Nature-Inspired Swarm Optimization Algorithms in Artificial Neural Networks Abhinav Srivastava, Puja Chaudhury	1
2	Artificial Intelligent for Speech Reproduction of Information and Knowledge of Ancient Books Liming Tang, Chongyu Li	7
3	Thyroid Nodule Detection using Artificial Neural Network Xhitij A. Kesarkar, K. V. Kulhalli	11
4	Smart Device Waiter using AI image and Voice Recognition with an IPS Navigation System Gaby Abou Haidar, Nouhad Hachem, Mohammad Awad	16
5	Early Stage Lung Cancer Diagnosis using ANN Classifier Shailesh S. Bhise, S. R. Khot	22
6	A Survey on Artificial Intelligence based Techniques to convert user Interface Design Mock-Ups to Code Harsh Dave, Sarah Sonje, Jaswantsingh Pardeshi, Sheetal Chaudhari, Pooja Raundale	28
7	Orderista - AI-based Food Ordering Application Tejas Raibagi, Ashwin Vishwakarma, Jahnvi Naik, Rujata Chaudhari, Geetanjali	34
8	Smart Borewell Child Rescue System through Wireless Monitoring using Artificial Intelligence Nandhitha Bala, V.Maria Anu, Prashanthi Niharika, L.Mary Gladence, S.Revathy	38
9	Correlation Analysis of Financial Indicators and Stock Price Fluctuations based on Artificial Intelligence System Shu Chen	43
10	A Survey on Future of Augmented Reality with AI in Education Kaviyaraj R, M. Uma	47
11	Revamping Supermarkets with AI and RSSi Prashant Kaushik, Anshul Sharma, Gurjit Singh Bhathal	53
12	Impact of Artificial Intelligence on Recruitment and Selection of Information Technology Companies A. Hemalatha, P. Barani Kumari, Nishad Nawaz, Vijayakumar Gajenderan	60
13	Pneumonia Detection using Image Processing and Deep Learning Harsh Agrawal	67
14	Measuring the Heart Attack Possibility using Different Types of Machine Learning Algorithms Maria Sultana Keya, Muhammad Shamsojjaman, Faruq Hossain, Farzana Akter, Fakrul Islam, Minhaz Uddin Emon	74
15	Assessment Study for E-Learning using Bayesian Network Rohit B Kaliwal, Santosh L Deshpande	79
16	Covid Detection from X-Ray and CT Scans using Transfer Learning – A Study Shailender Kumar, Mohd Talib, Naman, Praduman Verma	85

17	Impact of Federated Learning on Smart Buildings Angan Mitra, Yanik Ngoko, Denis Trystram	93
18	Brain Tumor Detection using Deep Learning and Image Processing Aryan Sagar Methil	100
19	Machine Learning-based Classification of Dementia Types: MRI Study V. P. Subramanyam Rallabandi, Krishnamurthy Seetharaman	109
20	Transfer Learning based Breast Cancer Classification using One-Hot Encoding Technique Karthiga R, Usha G, Raju N, Narasimhan K	115
21	Sentiment Analysis for Product Rating using a Deep Learning Approach Krishna Kumar Mohbey	121
22	Prediction of Type-2 Diabetes using Machine Learning Algorithms Valasapalli Mounika, Devi Sree Neeli, Gorla Suma Sree, Parimi Mourya, Madala Aravind Babu	127
23	A Comparative Study of the Performance of Machine Learning based Load Forecasting Methods P. Prashanthi, Priyadarsini . K	132
24	Performance Analysis of Supervised Machine Learning Algorithms for Diabetes and Breast Cancer Dataset Aayushi Bansal, Anita Singhrova	137
25	Review on Image Classification Techniques in Machine Learning for Satellite Imagery N. Thamaraikannan, S. Manju	144
26	A Machine Learning Approach for Prediction System and analysis of Nutrients Uptake for better Crop Growth in the Hydroponics System Swapnil Verma, Sushopti D.Gawade	150
27	Sentiment Analysis on Food Review using Machine Learning Approach Nourin Islam, Nasrin Akter, Abdus Sattar	157
28	Analysis on Prediction of Plant Leaf Diseases using Deep Learning S. Nandhini, K. Ashokkumar	165
29	Trajectory Planning & Computation of Inverse Kinematics of SCARA using Machine Learning M Aruna Devi, Prajwal S Hebbar, Praveen D Jadhav, Mohammed Mohsin, Nepal Adhikary, S Krishna Shashank	170
30	Paediatric Sickle Cell Detection using Deep Learning - A Review S. Nikkath Bushra, G. Shobana	177
31	Recognition of Single and Multiple Partial Discharge patterns using Deep Learning Algorithm T. Sukumar, A. Prince, G. Balaji, S. Praveen Kumar, B. Vigneshwaran	184
32	A Systematic Review: Deep Learning based E-Learning Recommendation System Roshan Bhanuse, Sandip Mal	190
33	Deep learning-based Techniques for the Automatic Segmentation of Organs in Thoracic Computed Tomography Images: A Comparative Study Malvika Ashok, Abhishek Gupta	198
34	Network Security: Threat Model, Attacks, and IDS Using Machine Learning Divya Kapil, Nidhi Mehra, Atika Gupta, Sudhanshu Maurya, Anupriya Sharma	203
35	Yolo-v4 Deep Learning Model for Medical Face Mask Detection Sheshang Degadwala, Dhairya Vyas, Utsho Chakraborty, Abu Raihan Dider, Haimanti Biswas	209

36	Divorce Case Prediction using Machine Learning Algorithms Aditya Sharma, Arshdeep Singh Chudhey, Mrityunjay Singh	214
37	Machine Learning-based Pharmaceutical Tablet Inspection and Recognition Techniques –A Review Urja Patel	220
38	Scrutinizing of Fake News using Machine Learning Techniques S. Gowri, Jenila J, Bathula Sowmya Reddy, M. Antony Sheela	223
39	A Comprehensive Analysis of Deep Learning Techniques for Documentation Classification Vinod Kumar, Ishika Jain, Ayushdeep Dabas, Kartik Pawar	228
40	Collaborative Learning for Improving Intellectual Skills of Dropout Students using Datamining Techniques M. Revathy, S. Kamalakkannan	236
41	A Survey on Bone Fracture Identification Techniques using Quantitative and Learning based Algorithms Saranya A, K. Kottilingam	241
42	Effective Prediction of Heart Disease using Data Mining and Machine Learning: A Review Simran Verma, Abhishek Gupta	249
43	A Review on Machine Learning based Student's Academic Performance Prediction Systems Rahul Katarya, Aryan Garg, Jalaj Gaba, Varsha Verma	254
44	A Review on Reinforcement Learning based News Recommendation Systems and its Challenges Sindhuja Bangari, Shantharam Nayak, Ladly Patel, Rashmi K T	260
45	Crime Type and Occurrence Prediction using Machine Learning Algorithm Kanimozhi N, Keerthana N V, Pavithra G S, Ranjitha G, Yuvarani S	266
46	Identification of Drug Discovery for Patients using Machine Learning Jegan Antony Marcilin. L, Rexiline Sheeba. I, Sugadev.M, Balamurugan Velan, Chitra P	274
47	Text Recognition in Moving Vehicles using Deep learning Neural Networks K. T. Ilayarajaa, V. Vijayakumar, M. Sugadev, T. Ravi	279
48	Review of Machine Learning methods for Identification of Cyberbullying in Social Media Neha Singh, Sanjay Kumar Sharma	284
49	A review on Deep Learning based Pneumonia Detection Systems Shailender Kumar, Pankaj Singh, Mohit Ranjan	289
50	Machine Learning Algorithms in Smart Antenna and Arrays for Internet of Things Applications Abhishek Javali, Anindita Sahoo, Jagrati Gupta	297
51	ECG Classification using a Hybrid Deep learning Approach SK Mohammad Rafi, Shaheda Akthar	302
52	Breast Cancer Prediction using Deep Learning Techniques Apparna Allada, Prasad Chitturi, Mannem Siva Naga Prasad, Ganaga Rama Koteswara Rao, Hema Chindu, Poojitha Tatineni	306
53	A Hybrid Machine Learning and Data Mining based Approach to Network Intrusion Detection Abhinav Singhal, Akash Maan, Dinesh Vishvakarma, Daksh Chaudhary	312
54	MF - Ensemble Algorithm with threshold to Enhance the Supervised Learning Classifier Accuracy on Big Data	319

	S. Banumathi, A. Aloysius	
55	Deep Learning for Lung Cancer Prediction using NSCLS patients CT Information Naresh Cherukuri, Prasad Chitturi, Naga Raju Bethapudi, CMAK Zeelan Basha, Venkata Sai Krishna Thotakura, Raja Mani Mummidi	325
56	A Comparative Approach To Predict Corona Virus using Machine Learning Rohini. M, Naveena. K. R, Jothipriya. G, Kameshwaran. S, Jagadeeswari. M	331
57	Post COVID-19 Twitter user's Emotions Classification using Deep Learning Techniques in India Poojitha Tatineni, Bharghavi Kanuri, Prasad Chitturi, B Sobhan Babu, Ganga Rama Koteswara Rao, Cherukuri Naresh	338
58	COVID-19 Diagnosis using X-Ray Images and Deep Learning Shivani Sharma, ShamikTiwari	344
59	Predicting the E-Learners Learning Style by using Support Vector Regression Technique Suresh K, Meghana J, Pooja M E	350
60	Machine Learning based Hand Sign Recognition Greeshma Pala, Satish Shivaji Kumbhar, Jagruti Bhagwan Jethwani, Shruti Dilip Patil	356
61	Primary Stage of Diabetes Prediction using Machine Learning Approaches Minhaz Uddin Emon, Maria Sultana Keya, Md. Salman Kaiser, Md. Ariful islam, Tabassum Tanha, Md. Sabab Zulfiker	364
62	Unsupervised Learning-based Vegetation Change Detection with Landsat 8 Data Md. Nur Uddin Sarker, Farah Ulfat, Md Zunayed Ahmed Siddique, Tanjila Farah	368
63	Comparative Question Answering System based on Natural Language Processing and Machine Learning Rohit Arora, Parth Singh, Hemlata Goyal, Sunita Singhal, Smita Vijayvargiya	373
64	Reinforcement Learning based Intelligent Traffic Signal Control using n-step SARSA Akshay Kekuda, R. Anirudh, Mithun Krishnan	379
65	Comparative Study Between Deep Learning Techniques and Random Forest Approach for HRRP Based Radar Target Classification M. Justin Sagayaraj, V.Jithesh, Dange Roshani	385
66	Design of Intelligent University Financial Management System based on B/S Structure and Complex Data Mining Ying Fang, Zebang Wang	389
67	Digital analysis of the Current Situation of Network Ideological Propaganda based on Remote Data Modeling Wenjun Liu	393
68	Image Classification using Tensor Flow Rishabh Singhla, Prince Singh, Rosy Madaan, Supriya Panda	398
69	Twitter Spam Detection using Natural Language Processing by Encoder Decoder Model Kshitiz Badola, Mridul Gupta	402
70	A Novel Score-based Multi-Source Fake News Detection using Gradient Boosting Algorithm S. Selva Birunda, R. Kanniga Devi	406
71	Design of Intelligent Distance Music Education System based on Pan-communication Technology Yan Lin	415

72	Data Mining based Intelligent Interior Design Paradigm with Information Flow Communication Model Rui He	419
73	Construction Method of Data Security Protection System of Power Information System based on Big Data Technology Jin Li, Zhengwen Zhang, Hua Cai, Lingyu Zhang, Xindong Huang	423
74	Design of Intelligent Construction Engineering Frame based on Communication Information Visualization Xiaoxing Kou	428
75	Convalescent Plasma Therapy: Data Driven Approach for finding the Best Plasma Donors M N Noorshidha, G. Aghila	432
76	Innovative Study on Online Ideological Education in the era of New Media, Face Recognition and Blockchain Hongrong Gao	440
77	Design of Digital Museum Narrative Space based on Perceptual Experience Data Mining and Computer Vision Guoyuan Cao, Keming Zeng	444
78	Computer-aided Measurement Modeling Analysis of behavioral Psychology with brain-Computer Interface Analysis Weijie Zhang, Zhichen Zhang, Kaitai Xiao	449
79	Construction of Smart Home-School Collaboration System based on Distributed Cluster Technology Yubei Yang	454
80	Resource Management Approach for Pervasive Computing in Smart Cities Padmanabhan P, Kumaresan M	458
81	Smart Traffic System using Traffic Flow Models Arihant Kamdar, Jigarkumar Shah	465
82	Automated Sign Language Interpreter using DataGloves Anupama H S, Usha B A, Spoorthy Madhushankar, Varsha Vivek, Yashaswini Kulkarni	472
83	Optimum Tilt and Orientation Angle Determination with Application of Solar Data Neha Sharma, Pawan Kumar Tiwari, Gulhasan Ahmad, Harsh Sharma	477
84	Enhanced Stacking Ensemble Model in Predictive Analytics of Environmental Sensor Data J. Angelin Jebamalar, T. Kamalakannan	482
85	Face Recognition based Activity Detection for Security Application Harshada Badave, Madhav Kuber	487
86	Head Pose Estimation based Robust Multicamera Face Recognition Harshada Badave, Madhav Kuber	492
87	SSVEP based Correlation Analysis for Efficiency Enhancement of Brain- Computer Interfaces Ashwini S. R, H. C. Nagaraj	496
88	Design of ESP8266 Smart Home using MQTT and Node-RED Paul Macheso, Tiwonge D. Manda, Sylvester Chisale, Nelson Dzupire, Justice Mlatho, Didacienne Mukanyirigira	502
89	Mobile Application for Flood Disaster in Jakarta Vito Lauda Putra Anta , Ivander Albert Liestyo , Harco Leslie Hendric Spits Warnars	506

90	Method of Text Summarization using LSA and Sentence based Topic Modelling with BERT Hritvik Gupta, Mayank Patel	511
91	Speech Enhancement using K-Sparse Autoencoder Techniques Sujoy Kumar Roy Chowdhury, Amitava Chatterjee	518
92	Garbage Detection using Advanced Object Detection Techniques Deep Patel, Foram Patel, Samir Patel, Nihar Patel, Dhruvil Shah, Vibha Patel	526
93	A Comprehensive Survey on Movie Recommendation Systems R. Lavanya, Utkarsh Singh, Vibhor Tyagi	532
94	Label Propagation from Laplacian Score for Semi-Supervised Attribute Selection Nithya Roopa S, D. Sathya, V. Sudha	537
95	Artificial Intelligence based Smart Door with Face Mask Detection Baluprithviraj. K. N, Bharathi. K. R, Chendhuran. S, Lokeshwaran. P	543
96	Convolutional Neural Network for Diabetic Retinopathy Detection Shital N. Firke, Ranjan Bala Jain	549
97	An Object Segmentation Approach for Mobile Lidar Point Clouds Musa Şervan Şahin, Tankut Acarman	554
98	Sentiment Analysis of COVID-19 Nationwide Lockdown Effect in India Nida Afroz, Vijeta Sharma, Moinak Boral, Manjari Gupta	561
99	Pre-trained Word Embeddings for Malayalam Language: A Review Reji Rahmath K, P C Reghu Raj, Rafeeque P C	568
100	Fully Smart Fire Detection and Prevention in the Authorized Forests Venkata Ramana Karumanchi, S. Hrushikesava Raju, S. Kavitha , V. Lakshmi Lalitha, S. Vijaya Krishna	573
101	Survey Paper based Critical Reviews for Cosmetic Skin Diseases Shwetambari Borade, Dhananjay Kalbande	580
102	Eliminating the Web Noise by Text Categorization and Optimization Algorithm S. Ganeshmoorthy, R. Priya	586
103	Client-side Cryptography based Security for Cloud Computing System Md. Abu Musa, Md. Ashiq Mahmood	594
104	A Brief Study on Approaches for Extractive Summarization Kajal Jewani, Ojas Damankar, Nitesh Janyani, Disha Mhatre, Sahil Gangwani	601
105	Classification of COVID-19 cases using Fine-Tune Convolution Neural Network (FT-CNN) Sheshang Degadwala, Dhairya Vyas, Harsh Dave	609
106	Systematic Analysis of Movie Recommendation System through Sentiment Analysis R Lavanya, B. Bharathi	614
107	S.M.A.R.T. Technologies for Transport Tests Networks, Exploitation and Repair Tools Georgiy Baranov, Ievgen O. Zaitsev, Olena Komisarenko, Ilona Chernytska	621
108	CNN based Counterfeit Indian Currency Recognition using Generative Adversarial Network Shamika Desai, Atharva Rajadhyaksha, Anjali Shetty, Swapnil Gharat	626
109	A Deep Neural Network based efficient Software–Hardware Co-design Architecture for Sparsity Exploration S. John Pimo, Priyadarsini. K, Damaraju Sri Sai Satyanarayana, K. G. S. Venkatesan	632
110	Enhancement Techniques for Analysis of Satellite Images through ERDAS Software S. Sainis, V. Barahate, S. Bandawar, S. Tarak, Nita Nimbarte, Sanjay Balamwar	640
111	Performance Analysis of Parallel Programming Paradigms on CPU-GPU Clusters B N Chandrashekhar, H A Sanjay, Tulasi Srinivas	646

112	Mtanh-Attention-BiLSTM model for Prediction of Automobile Export Customer Satisfaction K. Shyamala, C. S Padmasini	652
113	Text Based Hate-Speech Analysis Janak Sachdeva, Kushank Kumar Chaudhary, Harshit Madaan, Priyanka Meel	661
114	Recruitment System with Placement Prediction Suraj Gupta, Yuvraj Haryan, Atif Hingwala, Swapnil Gharat	669
115	Comparative Study of Boosting and Bagging based Methods for Fault Detection in a Chemical Process Rahul Shrivastava	674
116	An Efficient Framework for Iris Segmentation with Additional Pressure term in the Active Contour model and Classification S. Y. Pattar	680
117	An Autonomous Cleaning Robot Sri Vishva R, Naresh R, Venkada Krishnan M. S	686
118	Early Detection of Alzheimer's Disease using Ensemble of Pre-Trained Models Ambily Francis, Immanuel Alex Pandian	692
119	Traffic Light Cycle Control using Deep Reinforcement Technique Satya Prakash Sahu, Deepak Kr. Dewangan, Archit Agrawal, T. Sai Priyanka	697
120	Cyber Security in Digital Sector Akanksha verma, Pronika Chawla, Ragasree Surendra, Kritika Soni, B. Srikanth Reddy	703
121	Feature Selection and Prediction of Heart diseases using Gradient Boosting Algorithms Anuradha. P, Vasantha Kalyani David	711
122	A Transformers Approach to Detect Depression in Social Media Keshu Malviya, Bholanath Roy, Saritha SK	718
123	Big Social Data and Modelling Frameworks Inshita Bamba, Yashika, Jahanvi Singh, Pronika Chawla, Kritika Soni	724
124	Global Web based Shopping from the Customers and Merchants View B. Venkateswarlu, B. Revathi, Durga Bhavani Dasari, MVBT Santhi, Harika Lakshmi Sikhakolli	728
125	Jakarta Smart City Mobile Application for Problem Reporting Dejan Rivaldo Bongestu, Yappiter, Harco Leslie Hendric Spits Warnars	735
126	Mobile Application for the Futsal Sports Community in Jakarta Farel Darari Deksano, Dimas Raka Erfiandhi, Anggy Cahya Prasetya, Aditya Satria Nagara Patmuryanto, Harco Leslie Hendric Spits Warnars	741
127	Lesion Extraction of Endometriotic Images using Open Computer Vision Visalaxi.S, Dinah Punnoose, T. Sudalai Muthu	747
128	Hyperparameter Optimization of LSTM based Driver's Aggressive Behavior Prediction Model D. Deva Hema, K. Ashok Kumar	752
129	Study of Block Chain Technology in Empowering the SME Suneetha Merugula, Dinesh G, M. Kathiravan, Gourab Das, Praful Nandankar, Santoshachandra Rao Karanam	758
130	SSLA based Traffic Sign and Lane Detection for Autonomous Cars S Swetha, P. Sivakumar	766
131	Real-time Healthcare Monitoring using Smart Systems: A Step Towards Healthcare Service Orchestration Vaidik Bhatt, Samyadip Chakraborty	772

132	A Novel Solar Power based Liquid Sprayer for Agricultural, Environmental and Health Care Applications P Rama Mohan	778
133	Real Time Solar Tracking System with GPS Neelam Verma, Manish Kumar, Shivam Sharma	783
134	An Efficient Squirrel Search Algorithm based Vector Quantization for Image Compression in Unmanned Aerial Vehicles M. S. Minu, R. Aroul Canessane	789
135	Image Quality Enhancement Algorithm based on Game Theory Model Erhui Xi, Songfeng Zhang	794
136	A Research Survey on State of the art Heart Disease Prediction Systems Lakshmi Prasad Koyi, Tejaswi.Borra, G. Lakshmi Vara Prasad	799
137	A Review: Condition based Techniques and Predictive Maintenance for Motor Aniket A. Manjare, Babasaheb G. Patil	807
138	Sentiment Analysis for Youtube Videos with user Comments : Review Rawan Fahad Alhujaili, Wael M.S. Yafooz	814
139	Model based Design for Automobiles by using Modeling and Optimization of Engine Cooling System E. Esakki Vigneswaran, S. Sujitha, R. Praveen	821
140	Optimal Solution of Economic Load Dispatch using Teaching Learning Algorithm Chodagam Srinivas, I Kranthi Kumar, A Senthilkumar, Y V Balarama Krishna Rao	828
141	Distinguishing Pneumonia and COVID-19: Utilizing Computer Vision to Mimic Clinician Efficacy Ishika Saha, Mahendra Kumar Gourisaria, Harshvardhan GM	834
142	Comparision of Diabetic Prediction AutoML Model with Customized Model Gururaj N Kulkarni, Sateesh Ambesange, Vijayalaxmi A, Anindita Sahoo	842
143	Staleness and Stagglers in Distibuted Deep Image Analytics Aswathy Ravikumar, Harini Sriraman	848
144	Image Fusion Algorithm for Medical images using DWT and SR Praveen kumar S, Sridevi S	853
145	Visual Question Answering using Data Mining Techniques for Skeletal Scintigraphy in medical domain – VQADMSS Jinesh Melvin Y I, Sushopti Gawade, Hemant Palivela	859
146	Effectiveness of Robotic Process Automation for Data Mining using UiPath Yashodhan Ketkar, Sushopti Gawade	864
147	Analysis of Brain Metastability in Healthy Elderly Population Avinash Shinde, Surya Das, Subha D. P	868
148	CNN Based COVID-19 Prevention System Deepalaxmi R Shenvi, Krishnananda Shet	873
149	Pre-Processing techniques of Text Mining using Computational Linguistics and Python Libraries Sakthi Vel S	879
150	Motor Imagery Classification based on Hybrid Feature Extraction and Deep Neural Network Rameshwar D. Chintamani, Parmalik Kumar, Rajneesh Karan	885
151	A Survey on Analysis of Fake News Detection Techniques Shailender Kumar, Subodh Kumar, Pooja Yadav, Meghna Bagri	894
152	A Study on Various Techniques for Plant Leaf Disease Detection using Image Leaf Sakshi Raina, Abhishek Gupta	900

153	Design of Microwave Wideband Antenna for Brain Tumor Imaging Applications Balamurugan Velan, L. Jegan Antony Marcilin, I. Rexiline Sheeba, Sugadev Mani, Mani, Mary Sajin Sanju	906
154	Voice Navigation based guiding Device for Visually Impaired People P. Chitra, M. Sumathi, K. Srilatha, V. Balamurugan, N. Mathan, R. Narmadha	911
155	Secure Encrypted Data Transmission of Brainwaves using AES S. Yogalakshmi, E. Annadevi, Magthelin Therase, R. M. Joany	916
156	A Novel Approach of Human Hunger Detection Especially for Physically Challenged People S. Lakshmi, P. Kavipriya, M. R. Ebenezar Jebarani, T. Vino	921
157	Three-link Robotic Manipulator using the Data Acquisition System and Stereo Vision V. Vijayakumar, K. T. Ilayarajaa, T. Ravi, M. Sugadev, Suriya Prakash. P	928
158	A Survey on Visual Speech Recognition Approaches N. Radha, A. Shahina, A. Nayeemulla khan	934
159	Optimal DG Allocation Using Particle Swarm Optimization Prem Prakash	940
160	Hybrid Methods of Contourlet Transform and Particle Swarm Optimization for Multimodal Medical Image Fusion Mitesh Kumar, Nikhil Ranjan, Bharti Chourasia	945
161	Crop Yield Prediction using Remote Sensing and Meteorological Data Avnika Shah, Rhea Agarwal, B. Baranidharan	952
162	Street View Text Detection Methods : Review Paper Anuja Shinde, Manasi Patil	961
163	A Polyhouse: Plant Monitoring and Diseases Detection using CNN Radha N, Swathika R	966
164	An ASR System for Malayalam Short Stories using Deep Neural Network in KALDI Lekshmi K R, Elizabeth Sherly	972
165	Data Mining and Region Prediction based on Crime using Random Forest Dewan Mamun Raza, Debasish Bhattacharjee Victor	980
166	Guidance System for Visually Impaired People Kanchan Patil, Avinash Kharat, Pratik Chaudhary, Shrikant Bidgar, Rushikesh Gavhane	988
167	A Comparative Evaluation of Data Mining Techniques for Fault Classification in TCSC Lines using Multiclass Classification Approach Nishant H. Kothari, Bhavesh R. Bhalja, Vivek Pandya, Pushkar Tripathi	994
168	Design of Smart Cane with Integrated Camera Module for Visually Impaired People Lavanya Narayani. T, Sivapalanirajan. M, Keerthika. B, Ananthi. M, Arunarani M	999
169	A Secure Image Steganography using Improved LSB Technique and Vigenere Cipher Algorithm Lasya Voleti, Balajee R M, Siva Koteswararao Vallepu, Karthik Bayoju, Devireddy Srinivas	1005
170	A Survey based on PLL and its Synchronization Techniques for Interconnected System Mohan P. Thakre, Nishant P. Matale, Payal S. Borse	1011
171	Object Tracking and Counting in a Zone using YOLOv4, DeepSORT and TensorFlow Shailender Kumar, Vishal, Pranav Sharma, Nitin Pal	1017
172	Application of Pre-Trained Deep Convolutional Neural Networks for Rice Plant Disease Classification	1023

	Vimal K. Shrivastava, Monoj K. Pradhan, Mahesh P. Thakur	
173	Mandatory Enforcement of Geofenced Security in Android Prateek Pande, Amit Kumar Medatiya, Kurra Mallaiah, Rishi Kumar Gandhi, S Srinivasachary	1031
174	Infini – A Keyword Recognition Chatbot Mansi Dinesh Thakkar, Mitesh Nilesh Shah, Charmi Umesh Sanghavi, Nilakshi Jain	1036
175	Cuckoo Search Optimization for the Classification of Remote Sensing Image Processing Gandla Shivakanth, Prakash Singh Tanwar	1043
176	Breast Cancer Detection-based Feature Optimization using Firefly Algorithm and Ensemble Classifier Yogesh Suresh Deshmukh, Parmalik Kumar, Rajneesh Karan, Sandeep K. Singh	1048
177	Opportunistic Routing Protocols based on Fuzzy Logic: Present and Future Directions Salem Abbas, Khaleel Ahmad	1055
178	Brain Tumor Detection Analysis using CNN: A Review Sunil Kumar, Renu Dhir, Nisha Chaurasia	1061
179	A Detailed Review on Challenges and Imperatives of Various CNN Algorithms in Weed Detection Syamasudha Veeragandham, H Santhi	1068
180	Hybrid Classification Algorithms for Predicting Student Performance A. Dinesh Kumar, R. Pandi Selvam, V. Palanisamy	1074
181	Identification of Brain Tumors using Volume rendering Techniques K. Sudha Rani, K. Mani kumari, T. Nireekshna, D. V. Shobana, N. Kavitha, B. Bagya Sri	1080
182	Sparse Code based Indexing for Image Retrieval Saurabh Sharma, Vishal Gupta, Mamta Juneja	1088
183	Intelligent Electricity Information Collection based on 5G Technology Dan Liu, Donghong Fu, Qianru Liu, Chunxue Fan, Anxin Wang	1095
184	Intrusion Detection System using Optimal Support Vector Machine for Wireless Sensor Networks Sibi Amaran, R. Madhan Mohan	1100
185	Securely Distributing Files in Cloud Environment by Dispensing Asymmetric Key Management System Applying Hashing Nusrat Jahan, Md. Ashiq Mahmood	1105
186	Smart Fire Detection System in a Large Building using Lora WAN K. Gokulakrishnan, J. Manoj Kumar, A. Mohammed Ashim	1111
187	A Survey on Third Party Auditor in Cloud Computing K. Aruna Kumari, V. Naga Lakshmi	1116
188	A Novel 3D Object Watermarking Technique using Hash Key Cryptography Vinod Jain, Anuj Mangal	1122
189	Popularizing Antenna Synthesis with Our Solved Problem Sunitt Shantanu Digamber Fulari, Harbinder Singh	1127
190	An Efficient Approach for Multiple user Data Security in Cloud Computing Brozolal Mondol, Md. Ashiq Mahmood	1130
191	A Survey on Network Packet Inspection and ARP Poisoning using Wireshark and Ettercap Majidha Fathima K M, N. Santhiyakumari	1136
192	Implementation of Replay Attack in Controller Area Network Bus using Universal Verification Methodology	1142

	Thirumavalavasethurayar P, Ravi T	
193	Malicious URL Detection: A Comparative Study Shantanu, Janet B, Joshua Arul Kumar R	1147
194	Mobile Attendance based on Face Detection and Recognition using OpenVINO Dane Brown	1152
195	A Comprehensive Review on Detection of DDoS Attacks using ML in SDN Environment Shaveta Gupta, Dinesh Grover	1158
196	Phishing Website Detection using Novel Machine Learning Fusion Approach A. Lakshmanarao, P. Surya Prabhakara Rao, M M Bala Krishna	1164
197	Review on Application Layer Protocol for IoT enabled Agricultural Intrusion Detection Jerrin Simla A, Rekha Chakravarthy	1170
198	Speech Emotion Recognition using Convolution Neural Networks Krishna Chauhan, Kamalesh Kumar Sharma, Tarun Varma	1176
199	Real-Time Drowsiness Identification based on Eye State Analysis Nageshwar Nath Pandey, Naresh Babu Muppalaneni	1182
200	Design of Semi Circular Floral Shape Directive UWB Antenna for Radar based Microwave Imaging Asheesh Gupta, M. L. Meena	1188
201	Intrusion Detection System - Deep Learning Perspective Shivani Desai, Bhavyang Dave, Tarjni Vyas, Anuja R. Nair	1193
202	Detection of Zero-Day Attacks in Network IDS through High Performance Soft Computing Srinivas Mishra, Sateesh Kumar Pradhan, Subhendu Kumar Rath	1199
203	Privacy Preserving Data Deduplication in Cloud using Advanced Encryption Standard B. Tirapathi Reddy, Maddireddy Vaishnavi, Makireddy Lalitha, Papineni Poojitha, Vakalapudi Bhavya Sri Kanthi	1205
204	Review of Shortest Path Wireless Sensor Network Performance with Energy-Efficient Approaches Amit Sahu, Nishi Pandey, Abhishek Agwekar	1211
205	Development of Secure Integrated Water ATM as a Smart System Prateek Singh, Mukesh Kumar Lohani, Riya Nagarkoti, Swapnendu Chakrabarti, P B Karandikar	1216
206	Car Parking Allocation System using Arduino P. Dhanabalraj, J. Jashva Sherin, L. Gopinath, K. Kumar, G. M. Gowthaman	1223
207	Foreign Language Online Guiding based on Computer Network Ecological Environment and Data Mining Bo Wang	1228
208	Phenomenon of Machine Mother Tongue Culture Transfer in English under the Internet with Pattern Recognition Models Junhui Shi	1232
209	Multi-node Trust Model Construction based on Blockchain: Modelling and Simulation Hao Luo	1236
210	The Proposed Novel Sphere Decoder for Mimo Detection R V Durga, A McLauchlin	1240
211	Analysis of Walsh-Hadamard Transformation with CFBMC Communication Dharmavaram Asha Devi, Manda Akshitha, Yeshala Siri Chandana	1246

212	Secured SMS Transmission using Android App M. R. Ebenezar Jebarani, P. Kavipriya, S. Lakshmi, T. Vino	1253
213	A Reliable Significant Message based Ranking Algorithm for Online Social Networks S. R. Mugunthan	1257
214	High Accuracy of Hybrid IDS System using Evidence Theory and SVM ML Technique Sonam Raj, Kedar Nath Singh, Neetesh Kumar Gupta, Rajesh Nigam, Bhupendra Verma, Surabhi Karsoliya	1261
215	Optimized Genetic Algorithm for Efficient Allocation of Virtualized Resource in Cloud (OGA_EAVRC) K Jairam Naik	1265
216	Heart Pulse Monitoring and Notification System using Arduino Hari Kiran Pendurthi, Jaswanth Godavarthi, Hemanth Sai Gokarakonda, Siva Sai Kanneganti, S. Kavitha	1271
217	Stabilization of Flight Controller for Unmanned Aerial Vehicle Yogita Dubey, Prathamesh Upadhye, Mrunal Shinde, Himanshu Hulke, Rizwan Sheikh, Disha Suneja	1279
218	WIFI Enabled Smart Industrial Security System K. Kalai Selvi, Ragul.K, Priyadarshini. M, Lakshmipriya. A, Monika Swetha. G	1284
219	Blockchain based Solution to Improve the Supply Chain Management in Indian Agriculture V. Sudha, P. Shanmughasundaram, R. Kalaiselvi	1289
220	Recent Developments and Methods of Cloud Data Security in Post-Quantum Perspective Shaik Mohammed Ilias, V. Ceronmani Sharmila	1293
221	A Review of Digital signature and Hash Function based Approach for Secure Routing in VANET Surender Kumar, Dr. Vikram Singh	1301
222	Direction based Node Placement in Wireless Sensor Network Kirankumar Y. Bendigeri, Jayashree D. Mallapur, S. B. Kumbalavati	1306
223	Securing Drone-based Ad Hoc Network using Blockchain Vijay A. Kanade	1314
224	Virtual Machine Security Problems and Countermeasures for Improving Quality of Service in Cloud Computing S Mahipal, V. Ceronmani Sharmila	1319
225	Blockchain Technology in Agriculture Product Supply Chain Shivendra, Kasa Chiranjeevi, Mukesh Kumar Tripathi, Dhananjay D. Maktedar	1325
226	A Novel Privacy Preserving Biometric Authentication Scheme using Polynomial Time Key Algorithm in Cloud Computing Praveen Tumuluru, CH. M. H. Saibaba, B. Revathi, Durga BhavaniDasari, Lakshmi Ramani Burra, B.Venkateswarlu	1330
227	Garbage Zero (Garb0): An IoT Framework for Effective Garbage Management in Smart Cities Sagar Chavan, Umesh Patil, Santosh Sam Koshy, S. V. Srikanth	1336
228	Construction Method of "Multi-Station Integration" Operation System based on Ubiquitous Power Internet of Things Jin Li, Zhengwen Zhang, Hua Cai, Lingyu Zhang, Xindong Huang, Shujuan Sun	1343
229	Design of the Intelligent Elderly Lighting Emotional Interactive Experience System based on Internet of Things	1347

	Jing Wang	
230	A review on the Internet of Things and Big Data Analytics based on Smart Cities John W. Kasubi, Manjaiah D.H, Guesh Dagnew Demewez	1352
231	The Recent Trends in Biometric Traits Authentication based on Internet of Things (IoT) Belal M. Alsellami, Prapti D. Deshmukh	1359
232	Lightweight Security in IoT: A Survey Dileep Kumar M J, Prabha Niranjan	1366
233	An Internet of Things Paradigm: Pandemic Management (incl. COVID-19) Vishnu S, S. R. Jino Ramson	1371
234	Blockchain and Internet of Things: Applications and Practices Premkumar R, Sathya Priya S	1376
235	Security Issues and Architecture of IoT Kushagra Jha, Pronika, Sitara Anumotu, Kritika Soni	1381
236	Smart Fire Detection and Surveillance System using IoT Nikhil Komalapati, Varun Chowdary Yarra, Lakshmi Anantha Vyas Kancharla, T. N. Shankar	1386
237	A Study on Comprehensive Risk Level Analysis of IoT Attacks Raenu Kolandaisamy, Kasthuri Subaramaniam, Abdurrahman Bin Jalil	1391
238	Customized Smart Object Detection: Statistics of Detected Objects using IoT V. Lakshmi Lalitha, S. Hrushikesava Raju, Vijaya Krishna Sonti, V. Murali Mohan	1397
239	IoT based Digital Toll Collection System: A Perspective Md. Nazmul Hossain Mir, N. M. Imrul Kayesh, Tanzila Mahmud Khan, Abdus Sattar	1406
240	Gas Leakage with Auto Ventilation and Smart Management System using IoT Afsana Mim Anika, Jannatul Ferdous Shoma, Nasrin Akter, Md. Niamul Hasan, Abdus Sattar	1411
241	Smart Embedded Framework using Arduino and IoT for Real-Time Noise and Air Pollution Monitoring and Alert System Janeera. D. A, Poovizhi.H, Sheik Haseena. S. S, Nivetha. S	1416
242	IoT and AI driven Sustainable Practices in Airlines as Enabler of Passenger Confidence, Satisfaction and Positive WOM Samyadip Chakraborty, Tulika Chakravorty, Vaidik Bhatt	1421
243	Augmented Reality with Internet of Things Sureshkumar S, Agash C P, Ramya S, Kaviyaraj R, Elanchezhiyan S	1426
244	Design of IoT based Multifunctional Camouflage Military Robot P. Kavipriya, G. Jegan, Edara Venkat, Deevi Nikhil Ranganadh	1431
245	Fast Restoration of Network with Remote Electric Tilt (RET) using IoT T. Ravi, M. Sugadev, S. Karthikeyan, V. Vijayakumar, Krishna Vibhavasu, Challa Ashok	1436
246	IoT based Prediction of Water Quality Index for Farm Irrigation Rajesh Kumar Yadav, Adarsh Jha, Aditya Choudhary	1443
247	Smart Health Care Monitoring System based on Internet of Things (IoT) V. Baby Shalini	1449
248	Narrowband IoT (NBIoT) Assisted Smart Grids Sudhir K. Routray, Devarajan Gopal, Abhishek Javali, Anindita Sahoo	1454
249	Narrowband IoT based Support Functions in Smart Cities Sudhir K. Routray, Laxmi Sharma, Eisha Akanskha, Aritri D. Ghosh, Sharmila. K. P, Pappa M	1459

250	Implementation of Approximate Computing Circuits for Error Tolerant Image Processing Applications Sakshi Jain, Ritu Singh	1465
251	Efficient Deblocking Filter with SRAM using 22nm FinFET Technology Ritu Singh, Sakshi Jain	1470
252	Performance of Induction Motor with Hybrid Multi Level Inverter for Electric vehicles B. N. Ch. V. Chakravarthi, S. Pragaspathy, P. Naveen, V S N Narasimha Raju	1474
253	VLSI Architecture for High Tap IF Filter with Low Complexity using Multi-rate Approach Simra Haider, Vibha Tiwari	1479
254	Power Quality Improvement for a Hybrid Renewable Farm using UPQC Ch. Phani Kumar, V. Karthikeyan, S. Pragaspathy, K. N. S. Durga Prakash	1483
255	Hotel Review Analysis for the Prediction of Business using Deep Learning Approach Md. Sagar Hossen, Anik Hasan Jony, Tasfia Tabassum, Md. Tanvir Islam, Md Mahfujur Rahman, Tania Khatun	1489
256	Low Cost Multipurpose UV-C Sterilizer box for Protection Against COVID'19 Rahul Santhosh, Sudha Yadav	1495
257	Hybridized Symmetrical Multilevel Inverter Topology with Reduced Number of Switches and DC Sources Lipika Nanda, Srikanta Mohapatra, Arjyadhara Pradhan, Soubhagya Ranjan Prusty	1499
258	Smart Door System with COVID-19 Risk Factor Evaluation, Contactless Data Acquisition and Sanitization Akshay Duth, Abhinav A Nambiar, Chintha Bhanu Teja, Sudha Yadav	1504
259	An Intuitive Alert System for Fault Detection and Fuse Burn out Recognition at the Distribution Transformer A. Jagadeesh, B. Sunil, R. Mahalakshmi	1512
260	Short-Term Load Forecasting using Time Series Algorithm Subhra Debdas, Shivangi Mohanty, Sarbani Mohanty, Biswarup Biswas, Sayantan Kundu, Anik Pal	1518
261	A Comprehensive Survey on Communication Technologies for a Grid Connected Microgrid System Suman Ghosh, Chandan Kr. Chanda, J. K. Das	1525
262	Hybrid Topology of Graph Convolution and Autoencoder Deep Network For Multiple Sclerosis Lesion Segmentation Abhilasha Joshi, K.K. Sharma	1529
263	Content based Image Retrieval using Frequency Domain Features: Zigzag Scanning of DCT Coefficients Netalkar Rohan Kishor, Hillol Barman, U. S. N.Raju, Suresh Kumar Kanaparthi, Harika Ala	1535
264	Implementation of CMOS-based Photo Diode for High-Efficiency end-to-end Communication and Enhanced Bit Error Rate Praful Nandankar, A. Geetha Devi, A. Jaya Lakshmi, V. V. Hari Babu	1541
265	Next-Day Electricity Demand Forecasting using Regression Mert Çetinkaya, Tankut Acarman	1549
266	Automatic Solar Panel Cleaning System based on Arduino for Dust Removal Md. Rawshan Habib , Md Shahnewaz Tanvir, Ahmed Yousuf Suhan, Abhishek Vadher, Sanim Alam, Tahsina Tashrif Shawmee, Koushik Ahmed, Abdelrhman Alrashed	1555

267	Comparative Study of THD in Multilevel Converter using Model Predictive Controller S. Rajasekaran, CH. Mahendar	1559
268	Mathematical Modelling of DVR with Two Stage Feedback Controller Janagama Vinay Kumar, P. Chaitanya Theja, P. S. V. N. Sudhakar, V S Aditya, P Rama Krishna, Rushi Santhosh Singh Thakur	1564
269	Design and Implementation of Efficient Torque Control of Induction Motor for Electric Vehicles T. Rampradesh, S. Harini, C. Christober Asir Rajan	1571
270	Towards Effective Time Series Classification of Multi-Class Imbalanced Learning Priyadarsini .K, S. Karthik, O. Hemakesavulu, Santoshachandra Rao Karanam	1576
271	Performance Analysis of Mantissa Multiplier and Dadda Tree Multiplier and Implementing With DSP Architecture G. Ramachandran, K. Kishore, Chandra Kumar Dixit, A. Arunraja	1583
272	An Investigation on Power Factor Enchancement using Bi-Directional Power Converter R. Sanjai Rohan Singh, J. Ramesh Kumar, T. Ram Mohan, M. Vel Manikandan, M. Gengaraj, L. Kalaivani	1588
273	Total Variation Denoising Techniques for Artifact Removal from EEG Signals Ahsan Ali, Subha D. P	1594
274	COVID19 Prediction using Time Series Analysis Aayush Jain, Himanshu Gadia, Tanay Sukhdeve, Satya Prakash Sahu, Satya Verma	1599
275	FFT and PMU based Fault Analysis in Double Circuit Transmission Line Suman Ghosh, Barnali Kundu, Avinash Shaw, Chandan Kr. Chanda, Aveek Chattopadhyaya, J. K. Das	1607
276	Comparative Analysis of Two- Level & Three-Level SVPWM based DTC IM Drives Ashish Srivastava, Anurag Chauhan, Anurag Tripathi	1612
277	Electronic Solution to Address Traffic Issues Near Bus Stops Utkarsh Mishra, Rain Ritika, Rajeshwar, Ashish Kumar Mishra, P B Karandikar	1619
278	Comparative Analysis of Modified INC and FLC for Solar Charger for Electric Two Wheeler Pooja Unnikrishnan, Visal Raveendran, Manjula G Nair	1625
279	A Brain-Switch based on Change in SSVEP Magnitude Kamal Sharma, Vaidik Gupta	1632
280	Review on Powering an Automated Teller Machine using Vertical Axis Wind Turbine and Solar Energy S. Karthikeyan, P. Krishna Prakash, K. Logesh Krishna, V. Poovarasan	1637
281	Analysis of High Speed Hybrid Full Adder V. Vijayakumar, K. T. Ilayarajaa, T. Ravi, M. Sugadev	1641
282	Booth Multiplier Design using Modified Square Root Carry-Select-Adder P. Kavipriya, S. Lakshmi, T. Vino, M. R. Ebenezar Jebarani, G. Jegan	1647
283	Intelligent Vehicle Tracking System for Motorcycle Racing Competition Chetan S.Gode, Vikas R.Gupta	1654
284	Design of all-optical D flipflop using SOA-MZI Architecture Sukhender, Nivedita Nair, Sanmukh Kaur, Purshottam Mittal	1657
285	Efficient Solar PV Array System using Modified Algorithm for Water Pumping System Rameshwari Medhane, Sharad Dhamal, Mohan Thakre	1663

286	Estimation of Health and Initial SOC based on Voltage Variation for LiPo Battery M. Nirmala, Durga Shree S	1670
287	Smart Energy Meter for Electric Vehicle M. Padmapriya, T. A. Raghavendiran, S. Gomathi	1677
288	Real-time Emergency Reporting and Handling System Thosani Yash Bhavesh, Panchal Rutvik Rajendra, Nagda Preet Kirti, Nilakshi Jain	1683
289	Evolutionary Computing based Analysis of Diversity in Grammatical Evolution Ayman Youssef, Krishn Kumar Gupt, Muhammad Adil Raja, Aidan Murphy, Conor Ryan	1688
290	Image Processing based Smart Weed Removal and Organic Fertilizer Sprinkling Bot – A Systematic Review Rajyalakshmi Uppada, Vanaja Kandubothula, Uppalapati Padma	1694
291	Role of Wearables in Sports based on Activity Recognition and Biometric Parameters: A Survey N. Nithya, G. Nallavan	1700
292	Arduino based Smart System for Control and Effective Billing P. Swamy Vivek, P. Venkata Sai Rahul, Dyuthy E. S, Sudha Yadav	1706
293	An Introduction to Universal Verification Methodology for the Digital Design of Integrated circuits (IC's): A Review N B Harshitha, Praveen Kumar Y G, M Z Kurian	1710
294	Machine Learning based Click Bait Detection System Ritu Agarwal, Dhruv Jain, Janardan Tiwari, Gagan Sharma	1714
295	Machine Learning based Collaborative Intelligent Closing Gap between Graduates and Labour Market Framework Wael M.S. Yafooz, Essa Abdullah Hezzam, Abdel-Hamid Mohamed Emara	1721
296	Blockchain driven IoT based Delish2Go Decentralized Food Delivery Application K. Sasikala Rani, S. Vishali	1727
297	Natural Language Processing based Identification of Related Short Forum Posts through Knowledge based Conceptualization J. C. Miraclin Joyce Pamila, Ajithkumar. A. K, R. Senthamil Selvi	1733
298	Global Positioning System based Waypoint Capture for Dual-Layered Security Sushitha S, Raghavendra Naik L	1741
299	Predictive Models for River Water Quality using Machine Learning and Big Data Techniques - A Survey Jitha P Nair, Vijaya M S	1747
300	Security Analysis on an Efficient and Provably Secure Authenticated Key Agreement Protocol for Fog-Based Vehicular Ad-Hoc Networks Salman Shamshad, Mohammad S. Obaidat, Minahil, Muhammad Asad Saleem, Usman Shamshad, Khalid Mahmood	1754
301	On the Security of Authenticated Key Agreement Scheme for Fog-driven IoT Healthcare System Salman Shamshad, Mohammad S. Obaidat, Minahil, Usman Shamshad, Sahar Noor, Khalid Mahmood	1760
302	On the Security of a Lightweight Privacy-Preserving Authentication Protocol for VANETs Salman Shamshad, Muhammad Asad Saleem, Mohammad S. Obaidat, Usman Shamshad, Khalid Mahmood	1766
303	A Review on Various Techniques for Spam Detection Nitesh J. Kawale, Saad Yunus Sait	1771